TITLE:	Post Graduate Researcher – Geological and Environmental Sciences
DEPARTMENT:	Department of Energy
AGENCY:	National Energy Technology Laboratory
LEVEL:	Post-Graduate
POSITION INFORMATION:	Temporary, 1-3 years full-time (40 hours per week)
DUTY LOCATIONS	1+ vacancies at Morgantown, WV; Pittsburgh, PA; and/or Albany, OR
WHO MAY BE CONSIDERED:	United States Citizens & Foreign Nationals with appropriate approval

SUMMARY:

Note that this position description is written broadly. Applicants with an interest in one or more of the activities below are encouraged to apply. Multiple positions will be filled through this opening.

Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated, post-graduates (MS and PhD) interested in working as part of geologic and environmental sciences focus area research team at NETL. NETL is a multi-disciplinary, scientific and technical-oriented national laboratory. NETL's Office of Research and Development (ORD) conducts research to evaluate environmental impacts and risk assessments associated with domestic energy resource development. Current research programs seeking post-graduate support include but are not limited to risk assessment for CO_2 storage.

At present, the team is looking for support from applicants with a background in one or more of the following areas: reservoir simulation, groundwater modeling, flow through fractured or porous media, artificial intelligence/data mining, geostatistics, geomechanics, petroleum engineering, and geophysics.

KEY REQUIREMENTS:

- Applicants must be U.S. Citizens or approved Foreign Nationals
- Suitable for Federal employment, as determined by background investigation.
- Must hold a masters and/or PhD degree from an accredited institution in a field appropriate for the applicant's area of expertise.

HOW TO APPLY:

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program. The ORISE Program provides opportunities for undergraduate students, recent graduates, graduate students, postdoctoral researchers, and faculty researchers. NETL utilizes the ORISE program to support research and work within NETL's Office of Research & Development.

- Interested applicants should complete the online application at https://www.orau.gov/netl
- In the online application **indicate your preferred NETL location** and **list Grant Bromhal as your requested mentor.** This will associate your application with this posting.

- If you have additional questions please contact Nancy Andres, Nancy.Andres@NETL.DOE.GOV, who is the NETL ORISE program contact.

ADDITIONAL INFORMATION:

As an ORISE post-graduate researcher with the U.S. Department of Energy's National Energy Technology Laboratory, you are expected to be an active member of a research team. Duties include formulating specific research plans, supporting and performing laboratory experiments and/or numerical simulations, data analysis and interpretation, presenting results to both internal and external audiences, preparing manuscripts for publication in peer-reviewed journals. Some specific research topics for which we are seeking support include but are not limited to:

(1) Develop and apply simulation tools for predicting migration of injected fluids (e.g., CO2) and brine in the deep subsurface, including changes in pressure, saturation, and stress over time. The applicant will have the opportunity to work with a multidisciplinary, multi-lab team of scientists and engineers that will address aspects of migration of reservoir fluids and CO_2 from deep formations to intermediate level aquifers.

(2) Utilize artificial intelligence and data mining and/or other techniques to develop reduced order models of computationally expensive numerical reservoir models of groundwater and/or reservoir flow. The applicant will be able to aid in the development of cutting-edge intelligent software development tools and their application to unique field sites.

(3) Reservoir modeling and code development in support of discrete fracture modeling of fluid flow in fractured media. Applicants will have the opportunity to work with newly-developed discrete fracture network simulation software on problems of interest to the energy sector, such as carbon storage, enhanced oil and gas recovery, and enhanced geothermal systems.

(4) Develop tools and techniques to aid in the analysis and forecasting of induced seismicity due to fluid injection or production from subsurface systems. The applicant will have the opportunity to work with a diverse team of scientists and engineers on determining conditions when fluid injection/production may cause seismic events and how the likelihoods of such events may change.